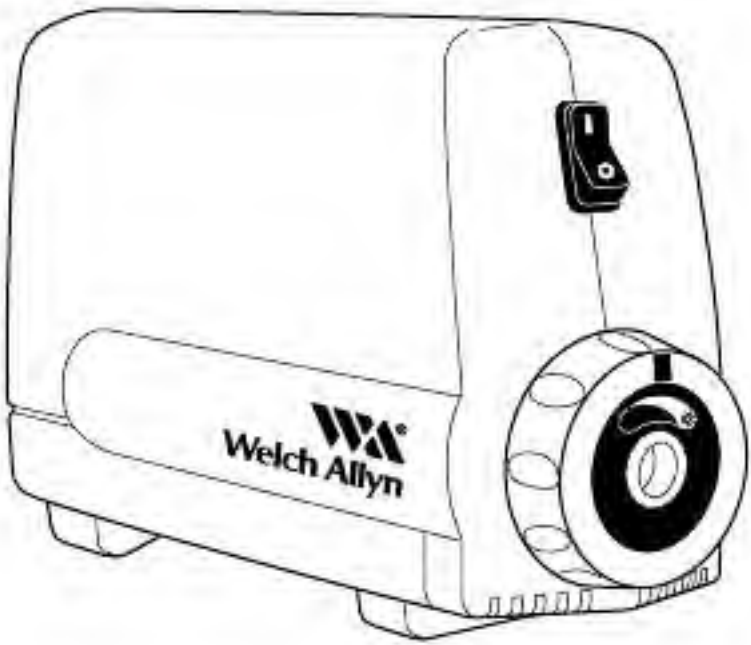
Welch Allyn® Light Source

For Model Numbers: 49500, 49502, 49504 and 49506.

Light Source Menu
Service Manual



Welch Allyn®

CONTENTS

Thank you for purchasing the Welch Allyn® Light Source, designed by a leading worldwide manufacturer of illuminated diagnostic instruments. By following the use and care guidelines given in this manual, you will be rewarded with years of dependable, trouble-free service from your new Light Source. Read these instructions thoroughly before use.

System Symbol Descriptions 1

Warnings and Precautions 2

System Description 4

System Set-up/Operation 5

Mounting 6

Lamp Replacement 7

Fuse Replacement 8

Cleaning 9

Specifications 10

Troubleshooting Guide 11

Maintenance and Repair 12

Warranty and Service 12

Ordering Information 13

SYMBOL DESCRIPTIONS

Attention: Read Operating Manual for Warnings, Precautions, and Instructions for Use.

Dangerous Voltage: Refer Servicing to Qualified Personnel.

Type B Equipment

Caution — Hot

Warning: Risk of Fire. Replace Fuses as Marked.

Light; Lighting; Illumination Intensity

INDICATIONS

Use of the Welch Allyn Light Source is indicated for medical lighting applications requiring a remotely located, high-quality white light. This product must only be used by qualified medical personnel.

CONTRAINDICATIONS

The use of the Welch Allyn Light Source is contraindicated for applications where high intensity light might burn or damage tissue; such as for neonate transillumination and ophthalmic procedures. For further contraindications, the user must also consult the operating manual of the instrument being used with the Light Source in the medical procedure.

WARNINGS AND PRECAUTIONS

WARNING: Possible explosion hazard. Do not use in the presence of flammable anesthetics. To ensure patient and operator safety, read and understand this manual before using the Welch Allyn Light Source.

Do not remove cover. Electrical shock hazard due to high internal voltage. There are no user serviceable parts inside except for the lamp and fuse, which are accessible through the bottom and back cover panels. Refer all service to Welch Allyn.

Replace fuses as marked. See Fuse Replacement Section, page 8.

The high intensity light at the front of the light source and at the tip of the Fiber Optic Bundle may give rise to high temperatures and bright light. To minimize the risk of injury, avoid direct viewing or contact with sensitive tissues.

Do not use for neonate transillumination. Erythema may result.

To prevent temporary blinding, always plug the fiber optic bundle into the Welch Allyn Light Source before turning the power ON.

Total system risk current — including the patient applied instrument — should not exceed 100 microamps. An isolation transformer is required if total system risk current exceeds 100 microamps when accessories are interconnected.

Do not sterilize the Welch Allyn Light Source. Refer to Cleaning section for cleaning instructions.

Do not switch the Welch Allyn Light Source ON and OFF in rapid succession. Doing so will dramatically shorten lamp life. Allow lamp to cool down 10 to 15 seconds between uses.

CAUTION: The Light Source should only be used by qualified medical personnel.

Provide adequate ventilation to prevent overheating. Do not cover or drape this light source. Provide a 3 inch (7.62 cm) distance between the Welch Allyn Light Source and any solid objects.

Grounding reliability is achieved only when connected to hospital-use or hospital-grade receptacles. Inspect electrical plug and cord routinely. Do not use if damage is discovered.

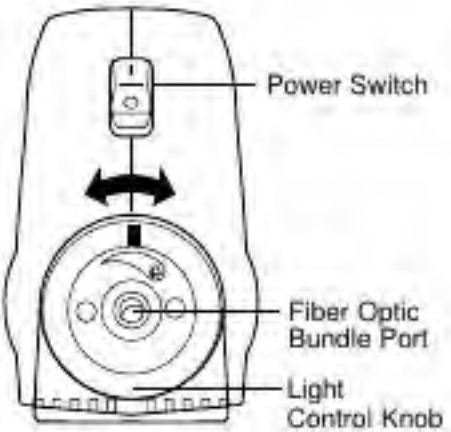
Do not use or store liquids above or on the Welch Allyn Light Source.

If this light source is used during invasive surgery, the failure of a component within the system, causing loss of illumination, may indirectly cause risk to the patient. Therefore, it is recommended to have alternative means of illumination available.

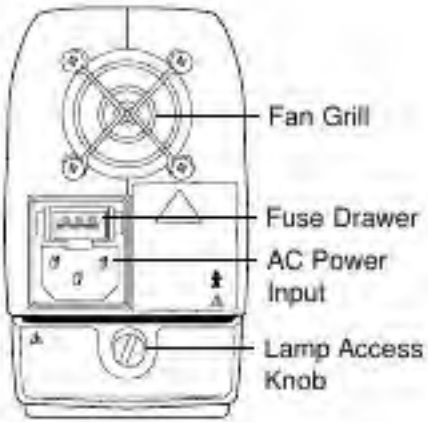
Since the light source uses a custom lamp, always have a spare lamp available for replacement. Use caution because lamp may be hot. Allow the lamp to cool before replacing. Use only Welch Allyn supplied power cord.

SYSTEM DESCRIPTION

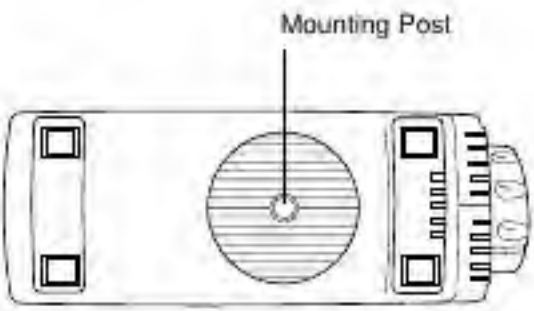
The Welch Allyn Light Source is used to supply high quality, white light for video and optical illumination systems. It accepts standard ACMI connectors.

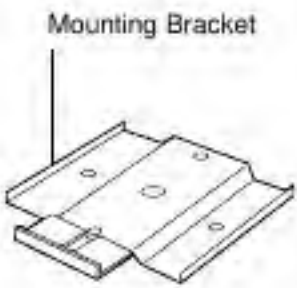


FRONT



BACK





BOTTOM

SET-UP AND OPERATION

After a 15 second warm-up period, the light output will stabilize at its normal intensity. The fiber optic bundle must be plugged in to stabilize light output.

CAUTION: Verify that the supply voltage matches the voltage range indicated on the rear of the Welch Allyn Light Source.

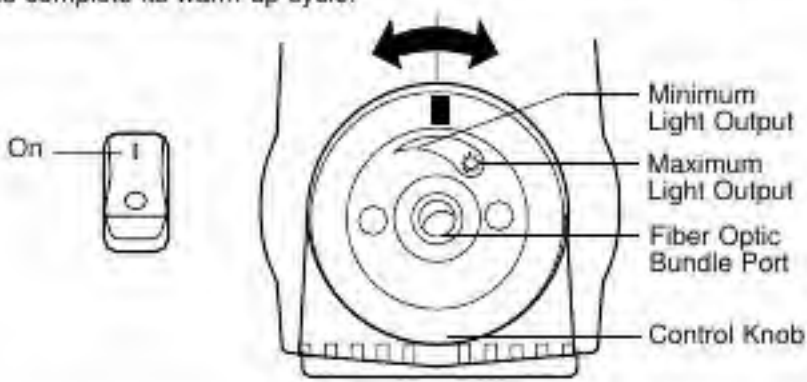
To prevent temporary blinding, turn power on only after the fiber optic bundle is plugged in and the intensity control knob is set to the minimum position.

The fiber optic bundle port is hot when fiber optic bundle is removed.

1. Plug the Welch Allyn Light Source into a hospital-grade receptacle.

2. Turn the light-intensity control knob to its minimum position. Plug the fiber optic bundle into the illuminator port and connect the opposite end to the instrument.

3. Turn the power switch to the on position. The lamp will take 15 seconds to complete its warm-up cycle.



4. Set light intensity to desired level.

5. Turn unit off when not in use.

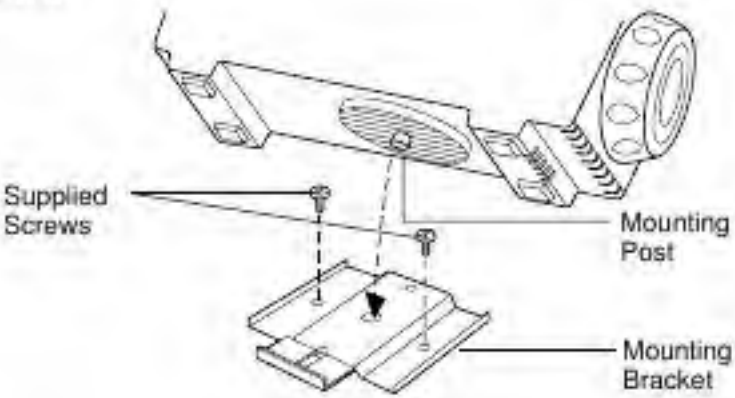
NOTE: Do not restart lamp immediately after turning off. The lamp may fail to start. If this occurs, turn the power switch off and wait 15 seconds before restarting the Welch Allyn Light Source.

MOUNTING

CAUTION: Do not cover or drape, light source generates heat. For proper ventilation, maintain a clearance of 3 inches (8 cm) around the unit, especially around the fan.

Secure bracket to a flat surface with screws provided. Align mounting post on Light Source with mounting hole on bracket (View A). Slide mounting lock until it clicks into place (View B). Light Source is now securely mounted to table.

VIEW A



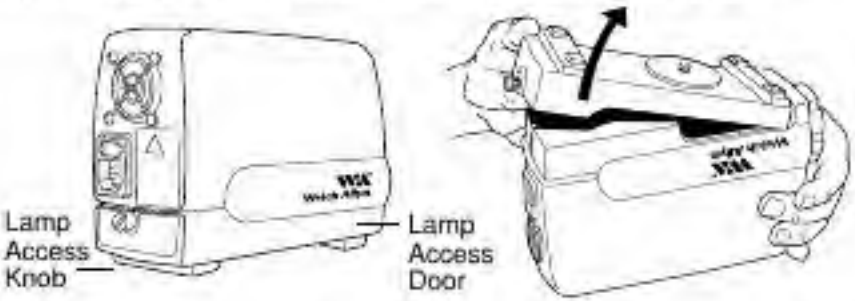
VIEW B

LAMP REPLACEMENT

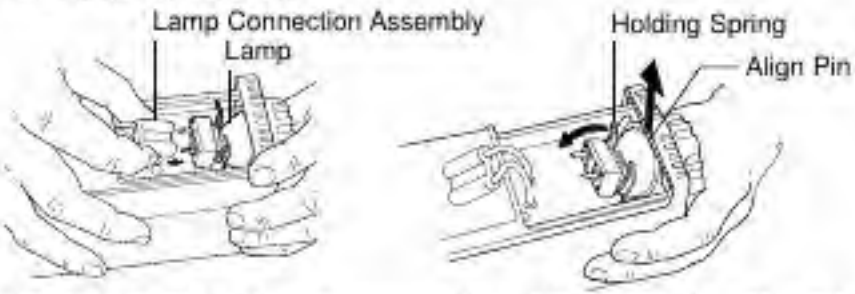
CAUTION: Lamp may be hot. Allow the lamp to cool before replacing.

1. Turn unit off and unplug the power cord from both the wall outlet and the Welch Allyn Light Source.

2. Remove the lamp door from the bottom of the Welch Allyn Light Source by unscrewing the lamp access knob on the back of the lightbox.



3. Disconnect the lamp connector assembly and remove the lamp from the holding spring assembly.



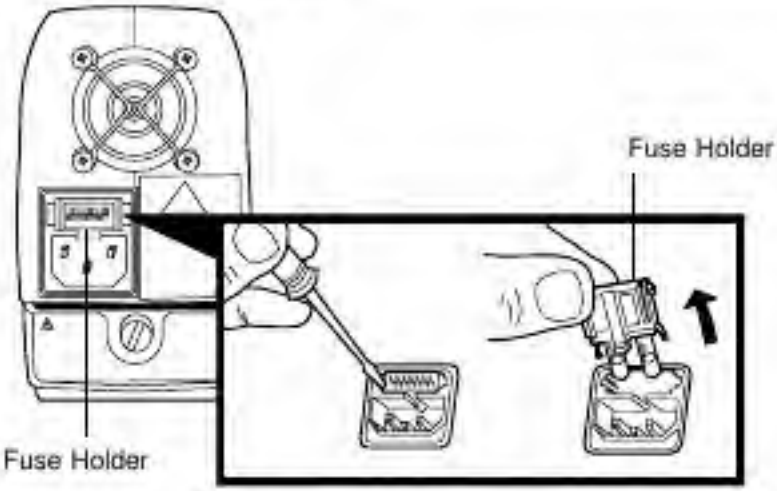
4. Replace with Welch Allyn replacement lamp #09500 only. **Do not touch the lamp itself, or the interior reflective surface of the lamp.** Skin oils on the lamp will cause premature lamp failure. Hold lamp by the outside of the reflector or the connector only. Remove any grease or fingerprints with a clean cotton swab moistened with alcohol. Do not leave any lint on the lamp.

5. Reconnect the lamp to the lamp connector and place in the spring mechanism. **Be sure that the pin on the lamp is properly seated in the slot on the lamp bracket.**

6. Reattach the lamp door securely. The unit will not power up unless the lamp door is seated properly.

FUSE REPLACEMENT

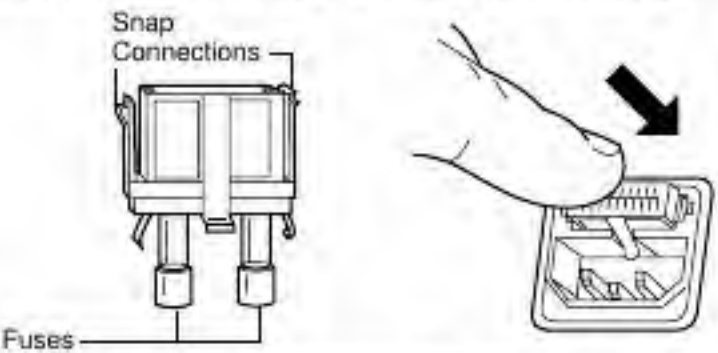
1. Turn the unit off and remove the power cord from both the wall outlet and the Welch Allyn Light Source.



2. Use a small screwdriver to remove the fuse holder above the power cord connector by releasing the spring-loaded snap connections.

3. Pull out the fuse holder.

4. Remove and replace with new fuses of the same type. There is no required orientation of the fuses. Be sure to replace both fuses.



5. Reinsert the fuse holder by pressing it into the power connector until it snaps into place.

6. If the new fuse blows, immediately contact Welch Allyn Technical Service at 315-685-4560.

CLEANING

NOTE: Welch Allyn Light Source should not be sterilized or immersed.

1. Prior to cleaning, turn power off and disconnect the power cord from both the wall outlet and the Welch Allyn Light Source.

2. The external surfaces may be cleaned by wiping with a cloth dampened with mild soap and water or by using the following cleaning/disinfecting solutions. DO NOT IMMERSE.

    - Cidex, CidexPlus
    - 70% isopropyl alcohol
    - 10% mild bleach solution
    - Metracide
    - 10% Wescodyne
    - Banicide
    - Wavecide-01

3. The power cord may be wiped clean using the same cleaning/disinfecting solutions listed above. Wipe dry with a clean cloth. Care must be taken not to get the plug prongs wet. DO NOT IMMERSE.

4. Do not plug the unit into a wall outlet until it is thoroughly dry.

SPECIFICATIONS

ELECTRICAL

Input Voltage: 100 - 240 VAC, 50 - 60 Hz
Input Current: 1A (@ 100 VAC)
Output: 60 VDC @ 0.4A
Leakage Current: less than 100 microamps

DIMENSIONS

8.2" (21 cm) (L) x 3.1" (8 cm) (W) x 5.2" (13 cm) (H)

ILLUMINATION SYSTEM

Welch Allyn HI•Lux™ Lamp
Color Temperature: 5500°K
Lamp: 60 Volts, 24 watts
Lamp Life: 300 hours average

DIMMING SYSTEM

Manual Shutter: 20% to 100%

FIBER OPTIC BUNDLE INTERFACE

Standard ACMI Connector

APPROVALS

UL 2601-1
CSA C22.2 NO 601.1-M90
IEC 601-1
IEC 601-1-2
CE
IEC 801-2,3,4,5
EN 55011
Australia AS3200

The CE mark on this product indicates it has been tested to and conforms with the provisions noted within the 93/42/EEC Medical Device Directive.

Declarations of Conformity are held by Welch Allyn's European Representative.

European Regulatory Manager
Welch Allyn Ltd.,
Kells Road, Navan,
County Meath, Republic of Ireland.
Tel +353 46 28122
Fax +353 46 28536

ENVIRONMENT

Operating: 60° F (15° C) to 85° F (30° C)
Storage: -13° F (-25° C) to 140° F (60° C)

EQUIPMENT CLASSIFICATION

Class I, Type B, Continuous Operation

FUSES

T1.0A L250V: 1.0A, 250V, time lag (slow-blow), low breaking capacity

TROUBLESHOOTING

If lamp is not illuminating and ...	POSSIBLE CAUSE	SOLUTION
fan is not operating.	Light Source is not plugged into either the wall outlet or the power cord socket.	Plug the power cord into the wall outlet and power cord socket at back of unit.
	Power switch is not turned on.	Depress the "I" side of the power switch.
	The bottom cover is not properly installed.	Remove the bottom cover and reinstall carefully, making sure that the lip on the bottom fits into the front of the housing and that the thumbscrew is fully tightened.
	One or both fuses have blown.	Replace both fuses. Follow the instructions in the fuse replacement section. If fuses continue to blow, return Light Source to an authorized repair center.
	Power cord is damaged. This may cause intermittent operation.	Replace the power cord with a new Welch Allyn power cord.
	No power is supplied to the wall outlet.	Verify that the wall outlet has power by checking the circuit breaker status and by operating other equipment at that wall outlet.
fan is operating.	The lamp was not able to "cool down" before restarting.	Wait at least 15 seconds after turning the Light Source off before turning it back on.
	The Light Source has overheated.	Verify that all ventilation slots and the fan area are not obstructed. The Light Source should be mounted on the supplied mounting bracket and there should always be at least 3-inches clearance.
	The lamp has burned out.	Replace with a new Welch Allyn lamp. Refer to the lamp replacement section.

MAINTENANCE AND REPAIR

For minor trouble, refer to the troubleshooting section in this manual for possible causes and corrective action.

Only qualified personnel should make electrical inspections of the Welch Allyn Light Source.

Repair: To locate qualified personnel, contact your local authorized Welch Allyn distributor, or call Welch Allyn directly at 315-685-4560.

WARRANTY AND SERVICE

Welch Allyn warrants the Welch Allyn Light Source when new, to be free of defects in material and workmanship and to perform in accordance with manufacturer's specifications when subject to normal use and service for a period of three years from the date of purchase from Welch Allyn or an authorized agent. Welch Allyn will either repair or replace any components found to be defective or at variance from manufacturer's specifications within this time at no cost to the customer. It shall be the purchaser's responsibility to return the instrument directly to the authorized distributor, agent, or service representative.

This warranty does not cover the HI-Lux Lamp or breakage or failure due to tampering, misuse, neglect, accidents, improper installation, modification, shipping, or to improper maintenance, service, and cleaning procedures. This warranty is also void if the instrument is not used in accordance with manufacturer's recommendations or if required or serviced by other than Welch Allyn or an authorized agent. Purchase date determines warranty requirements. No other express or implied warranty is given.

ORDERING INFORMATION

49500 **Welch Allyn Light Source**
100-240 VAC
50-60 Hz
U.S.A. Plug Type

49502 **Welch Allyn Light Source**
100-240 VAC
50-60 Hz
European Plug Type

49504 **Welch Allyn Light Source**
100-240 VAC
50-60 Hz
U.K. Plug Type

49506 **Welch Allyn Light Source**
100-240 VAC
50-60 Hz
Australian Plug Type

REPLACEMENT PARTS

09500 **24W HI-Lux Lamp**

76500 **U.S.A. Power Cord**

76502 **European Power Cord**

76504 **U.K. Power Cord**

76506 **Australian Power Cord**

Welch Allyn

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Telephone: 800-535-6663, 315-685-4560
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Part # 495002

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